

REMARKS

Claims 1-7 are pending. By this Amendment, the specification and claim 4 are amended and new claim 7 is added. Support for new claim 7 can be found throughout the specification as filed (see for example paragraph [0017] of the specification). No new matter is added.

The Office Action objects to the drawings for including reference characters not mentioned in the specification. Applicants believe that this objection is overcome with the above amendments to the specification in which the missing reference numbers are inserted in appropriate paragraphs [0009], [0012] and [0016]. Reconsideration and withdrawal of the objection to the drawings are thus respectfully requested.

Applicants thank the Examiner for the indication that claims 3, 5 and 6 contain allowable subject matter. Because claims 1-2 and 4 are allowable for the reasons set forth below, it is respectfully submitted that the entire application is in condition for allowance.

The Office Action rejects claim 4 under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. Although Applicants disagree with this rejection, Applicants have amended claim 4 to further define that "additional" alcohol based solvent is added in the electrode forming sheet after rolling process of the electrode forming sheet. Applicants believe that this rejection is overcome with the amendment to claim 4. Thus, reconsideration and withdrawal of the rejection under 35 U.S.C. § 112, first paragraph, are respectfully requested.

The Office Action rejects claims 1 and 2 under 35 U.S.C. § 103(a) as being obvious over “Applicant’s Admitted Prior Art” (“APA”) in view of Morimoto et al. (U.S. Patent No. 4,862,328). This rejection is traversed.

As the Office Action notes, “APA does not teach that the electrode-forming sheet contains alcohol-based solvent having 2 to 10% by weight of the electrode-forming sheet while joining the collector sheet and the electrode-forming sheet” (see the sentence bridging pages 3 and 4 of the Office Action).

However, the Office Action asserts that “Morimoto et al. teaches a process for producing an electrode for an electric double layer capacitor comprising adding 2% by weight of ethanol to the electrode-forming sheet material, and kneading and rolling out the material to form an electrode-forming sheet (see the first full paragraph on page 4 of the Office Action). The Office Action then asserts that it would have been obvious to add 2% ethanol to the APA “to create a capacitor with a large capacitance per unit volume, as taught by Morimoto et al.”

First, Morimoto et al. does not teach or suggest that adding 2% ethanol creates a capacitor with a large capacitance per unit volume. Morimoto et al. discloses that the Morimoto et al. invention provides “a polarizable electrode for an electric double layer capacitor having a capacity as large as e.g. at least 40 F/cm³ as the capacity per volume of the capacitor (F/cm³)...” (see the sentence in Morimoto et al. from column 1, line 65 to column 2, line 2). However, 2% ethanol is not added to form the Morimoto et al. invention. The 2% ethanol is added in the “COMPARATIVE EXAMPLE 3” in column 7. In the Comparative Example, the production process comprises adding 2% ethanol solvent to the raw materials, kneading the raw materials, and forming the kneaded

material in sheet. In any case, there is no correlation shown by Morimoto et al. that adding 2% ethanol creates a capacitor with a larger capacitance per unit volume.

Second, in the presently claimed method, the electrode forming sheet contains alcohol based solvent having 2 to 10% by weight of the electrode forming sheet in the electrode forming sheet while joining the collector sheet and the electrode forming sheet. More particularly, the presently claimed invention comprises adding alcohol based solvent to the raw materials, kneading the raw materials, pulverizing the kneading material, forming the material in sheet, rolling the sheet to have predetermined thickness, and then, additionally adding the alcohol based solvent while joining the collector sheet and the electrode forming sheet. Thus, at the time of joining the collector sheet and the electrode sheet, the electrode forming sheet contains 2 to 10% alcohol based solvent.

The effect of the present invention can be obtained by controlling the amount of alcohol based solvent contained in a range of 2 to 10% by weight. Therefore, in the case in which the amount is less than 2% when the sheet reaches the joining process, alcohol based solvent is additionally added to reach from 2 to 10%. On the other hand, in the case in which the amount excess 10%, the amount is reduced by drying. As explained in the present specification, "[i]n the actual production of the electrode forming sheet of the present invention, the amount of alcohol based solvent contained in the electrode forming sheet is 12% when the sheet reaches the joining process. Therefore, the amount contained can be controlled in a range of 2 to 19% by drying." (see paragraph [0019]).

The combination of the APA and Morimoto et al. nowhere includes a step where the electrode forming sheet contains alcohol based solvent having 2 to 10% by weight of the electrode forming sheet in the electrode forming sheet while joining the collector sheet and the electrode forming sheet, as required by the present claims.

At best, Morimoto et al. teaches against such, stating “(3) [t]he liquid lubricant is removed from the molded product by a suitable means such as heating or extraction. Then, the molded product is mono- or multi-axially stretched” (see Morimoto et al. column 4, lines 7-15). Thus the stretching is conducted after the liquid lubricant is removed. After production of the stretched sheets (from which the liquid lubricant is removed), “[a]n electric double layer capacitor can be obtained by sandwiching a porous separator between a pair of electrodes by shaping the above-mentioned sheet products to correspond to the shape of the capacitor...” (see column 4, lines 64+).

Thus, as neither of APA and Morimoto et al. include a step where the electrode forming sheet contains alcohol based solvent having 2 to 10% by weight of the electrode forming sheet in the electrode forming sheet while joining the collector sheet and the electrode forming sheet, as required by the present claims, it is respectfully submitted that the invention of present claims 13-20 would not have been obvious over the combination of APA and Morimoto et al..

Reconsideration and withdrawal of the rejection of claims 1 and 2 under 35 U.S.C. § 103(a) are respectfully requested.

Applicants respectfully submit that this application is in condition for allowance and such action is earnestly solicited. If the Examiner believes that anything further is desirable in order to place this application in even better condition for allowance, the

Examiner is invited to contact Applicants' undersigned representative at the telephone number listed below to schedule a personal telephone interview to discuss any remaining issues.

In the event this paper is not considered to be timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fee deficiency or credit any overpayment to Counsel's Deposit Account 01-2300, referencing attorney docket number 108421-00084.

Respectfully submitted,

A handwritten signature in black ink, reading "Robert K. Carpenter", with a horizontal line extending to the right.

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